

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Currently Amended) ~~A method as claimed in claim 3, wherein the step of detecting the network failure comprises steps of:~~ A method of protecting an Open Shortest Path First (OSPF) network against network failures affecting traffic flow between an interior router (IR) and a predetermined primary area border router (ABR) using a back-up link between the IR and a predetermined alternate ABR, the method comprising steps of:

maintaining the back-up link in a dormant state during normal operations of the network, such that no traffic is forwarded to the back-up link during normal operations of the network; and

activating the back-up link in response to a network failure affecting communications between the IR and the primary ABR, such that traffic can be routed between the IR and the alternate ABR through the back-up link comprising:

detecting the network failure affecting communications between the IR and the primary ABR comprising:

detecting a loss of communications between the IR and the primary ABR;

monitoring a link between the IR and the primary ABR for a predetermined period, to detect recovery of communications; and

declaring a link failure if recovery of communications between the IR and the primary ABR is not detected within the predetermined period;

promoting the back-up link to an active status; and

advertising the back-up as a valid route.

7. (Currently Amended) A method as claimed in claim 36, wherein the step of promoting the back-up link comprises a step of negotiating an adjacency relationship between the IR and the alternate ABR.
8. (Currently Amended) A method as claimed in claim 46, further comprising a step of deactivating the back-up link in response to a network recovery affecting communications between the IR and the primary ABR, such that traffic flow through the back-up link between the IR and the alternate ABR is terminated.
9. (Original) A method as claimed in claim 8, wherein the step of deactivating the back-up link comprises steps of:

detecting the network recovery; and

demoting the back-up link to an inactive status.
10. (Original) A method as claimed in claim 9, wherein the network recovery is detected by the IR.
11. (Original) A method as claimed in claim 10, wherein the step of deactivating the back-up link to an inactive status is initiated by the IR.
12. (Original) A method as claimed in claim 9, wherein the step of detecting the network recovery comprises steps of:

detecting a recovery of communications between the IR and the primary ABR;

monitoring a link between the IR and the primary ABR for a predetermined period, to detect loss of communications; and

declaring a link recovery if loss of communications between the IR and the primary ABR is not detected within the predetermined period.

13. (Original) A method as claimed in claim 9, wherein the step of demoting the back-up link comprises a step of terminating an adjacency relationship between the IR and the alternate ABR.
14. (Cancelled)
15. (Cancelled)
16. Cancelled)
17. (Cancelled)
18. (Currently Amended) ~~A router as claimed in claim 17, wherein the means for detecting the network failure comprises:~~ A router adapted for protecting an Open Shortest Path First (OSPF) network against network failures affecting communications with a predetermined adjacent router using a back-up link to a predetermined alternate router, the router comprising:

means for maintaining the back-up link in a dormant state during normal operations of the network, such that no traffic is forwarded to the back-up link during normal operations of the network; and

means for activating the back-up link in response to a network failure affecting communications with the primary router, such that traffic can be routed through the back-up link comprising:

means for detecting the network failure affecting communications with the primary adjacent router comprising:

means for detecting a loss of communications with the primary adjacent router;

means for monitoring a link to the primary adjacent router for a predetermined period, to detect recovery of communications; ~~and~~

means for declaring a link failure if recovery of communications with the primary adjacent router is not detected within the predetermined period.

means for promoting the back-up link to an active status; and
means for advertising the back-up link as a valid route.

19. (Currently Amended) A router as claimed in claim ~~17~~18, wherein the means for promoting the back-up link comprises means for negotiating an adjacency relationship with the alternate router.
20. (Currently Amended) A router as claimed in claim ~~14~~18, further comprising means for deactivating the back-up link in response to a network recovery affecting communications with the primary adjacent router, such that traffic flow with the alternate router through the back-up link is terminated.
21. (Original) A router as claimed in claim 20, wherein the means for deactivating the back-up link comprises:

means for detecting the network recovery; and

means for demoting the back-up link to an inactive status.
22. (Original) A router as claimed in claim 21, wherein the means for detecting the network recovery comprises:

means for detecting a recovery of communications with the primary adjacent router;

means for monitoring a link to the primary adjacent router for a predetermined period,
to detect loss of communications; and

means for declaring a link recovery if loss of communications with the primary adjacent router is not detected within the predetermined period.
23. (Original) A router as claimed in claim 21, wherein the means for demoting the back-up link comprises means for terminating an adjacency relationship with the alternate adjacent router.
24. (Cancelled)
25. (Cancelled)
26. (Cancelled)

27. (Cancelled)

28. (Currently Amended) ~~The computer-readable medium as claimed in claim 27, wherein the software adapted to control the router to detect the network failure comprises:~~ A computer-readable medium encoded with a software program adapted to control a router of an Open Shortest Path First (OSPF) network to protect against network failures affecting communications with a predetermined primary adjacent router using a back-up link to a predetermined alternate router, the computer-readable medium comprising:

~~software adapted to control the router to maintain the back-up link in a dormant state during normal operations of the network, such that no traffic is forwarded to the back-up link during normal operations of the network; and~~

~~software adapted to control the router to activate the back-up link in response to a network failure affecting communications with the primary router, such that traffic can be routed through the back-up link comprising:~~

~~software adapted to control the router to detect the network failure affecting communications with the primary adjacent router comprising:~~

software adapted to control the router to detect a loss of communications with the primary adjacent router;

software adapted to control the router to monitor a link to the primary adjacent router for a predetermined period, to detect recovery of communications; and

software adapted to control the router to declare a link failure if recovery of communications with the primary adjacent router is not detected within the predetermined period;

~~software adapted to control the router to promote the back-up link to an active status; and~~

~~software adapted to control the router to advertise the back-up link as a valid route.~~

29. (Currently Amended) The computer-readable medium as claimed in claim ~~27~~28, wherein the software adapted to control the router to promote the back-up link comprises:

software adapted to control the router to negotiate an adjacency relationship with the alternate router; and

software adapted to control the router to update a respective forwarding table of the router to identify the back-up link as a valid route.

30. (Currently Amended) The computer-readable medium as claimed in claim ~~34~~28, further comprising software adapted to control the router to deactivate the back-up link in response to a network recovery affecting communications with the primary adjacent router, such that traffic flow with the alternate router through the back-up link is terminated.

31. (Previously Presented) The computer-readable medium as claimed in claim 30, wherein the software adapted to control the router to deactivate the back-up link comprises:

software adapted to control the router to detect the network recovery; and

software adapted to control the router to demote the back-up link to an inactive status.

32. (Previously Presented) The computer-readable medium as claimed in claim 31, wherein the software adapted to control the router to detect the network recovery comprises:

software adapted to control the router to detect a recovery of communications with the primary adjacent router;

software adapted to control the router to monitor a link to the primary adjacent router for a predetermined period, to detect loss of communications; and

software adapted to control the router to declare a link recovery if loss of communications with the primary adjacent router is not detected within the predetermined period.

33. (Previously Presented) The computer-readable medium as claimed in claim 31, wherein the software adapted to control the router to demote the back-up link comprises:

software adapted to control the router to terminate an adjacency relationship with the alternate adjacent router; and

software adapted to control the router to update a respective forwarding table of the router to reflect an inactive status the back-up link.